W6IFE San Bernadino Microwave Society NewsLetter

President Chip Angle N6CA 25309 Andreo Lomita, CA 90717 310-539-5395 chip@anglelinear.com

VP Joe Saddler WA6PAZ 13909 Fidler Bellflower, CA 90706 310-867-3294

Recording Sec Eric Fort KD6GLP PO Box 42 Etiwanda, CA 91739 909-899-3092

Corresponding Sec Phil Biles K6COY 446 Colorado St. Anaheim, CA 92801 714-527-3632 philbiles@worldnet.net

Treasurer Dick Kolbly K6HIJ 26335 Community Barstow, CA 92311 760-253-2477 70541.2312@compuserve.com

Editor Bill Burns WA6QYR 247 Rebel Rd Ridgecrest, CA 93555 760-375-8566 bburns@ridgecrest.ca.us

ARRL interface Frank Kelly WB6CWN 1111 Rancho Conejo Blvd. #501 Newbury Park, CA 91320 805-499-8047 fk@event1.com

FCC interface Dave Laag K6OW 11614 Indian St. Moreno Valley, CA 92557 909-924-1517

W6IFE license trustee Ed Munn W6OYJ 6255 Radcliffe Dr. San Diego, CA 92122 619-453-4563 75353.1255@compuserve.com

---

The 5 June 1997 meeting will have Brian Kidwell as the speaker. His subject will be "Antenna positioning systems". He is parteners in a business which makes PC computer driven telescope positioning systems and consumer applications. Brian will discuss applications to other systems like antennas. It's a good follow on to Dick & Chucks previous talks on antennas and positioning. SBMS meets at the American Legion Hall 1024 Main Street Corona CA at 1930 hours local time.

Last meeting had Bill, WA6QYR address some slides showing evolution of SBMS equipment over the years and some of the block diagrams of those rigs. Thanks Bill. Also at the meeting was a demonstration of microwvare ATV by Al K6LJM with video signals from John, K6YBS station live. Visitors were Fred Karasek, KF6HQC of Alta Loma, and Ashor David of Newport Beach. Welcome! Welcome to new members Ed Schnelbach, KE6BAA of Ontario; Ken Canfield AC6NG of Riverside; Martin Crundall, AC6RM of Rialto; and Fred Karasek, KF6HQC of Alta Loma. If you need a badge, please contact Dick, K6HIJ and they will become available. 31 present.

Scheduling

14-16 Jun. ARRL June VHF QSO Party

28-29 Jun. ARRL Field Day

3 July tech talk Chuck WA6EXV waveguide filters

2-3 Aug. ARRL UHF contest

7 August tech talk Frank WB6CWN internet microwave resources

4 Sept. tech talk Dave K6OW and Joe WA6PAZ on wide and narrow band modes of microwave

16-17 Aug. ARRL 10 Ghz & Up contest 1st half

12-14 Sept. ARRL SW Div. Convention in Riverside, CA

13-15 Sept. ARRL Sept. VHF QSO Party

20-21 Sept. ARRL 10 Ghz & Up contest 2nd half.

For anyone interested in computer simulation programs, this message was posted on the ARRL RF CAD reflector.

From: Harry H. Brown [SMTP:hbrown@vf.lmms.lmco.com]

Subject: [ARRLCAD:782] APLAC- another interesting simulation package

Here's a progran that I ran across a couple of years ago that this reflector's members may find interesting. The text that follows is copied from the APLAC Web pages. For those of you interested, the startup URL is: http://www.aplac.hut.fi/aplac/main.html

Frank WB6CWN fk@event1.com

Greetings, For info on the Northern CA 50 MHz and UP Group BBQ:

http://www.nitehawk.com/rasmit/bbq.html or http://www.nitehawk.com/rasmit/nekiosk.html

73 Rein, W6/PA0ZN http://www.nitehawk.com/rasmit/

WORLD ABOVE 1000MHz -- G3PHO Homepages I have just set up a "mirror site" of my microwave pages at Geocities.com. Please try this if the Virgin Net pages download very slowly. The mirror site seems to download MUCH faster! This should be better for non UK "surfers"!

URL is: http://www.geocities.com/SiliconValley/Vista/7012BTW, the signature on my earlier posting was incorrect. There is now NO microwave web site under my callsign at AOL. Will anyone who has my pages linked from their site please change my URL to the above? My UK based site has exactly the same content as the one at Geocities. At the moment it is extremely slow to download due to the Virgin Net "Freespace" server being very much overloaded. (Their "techie" told me on the phone today that they have had an unprecedented and unexpected demand for the free 10 megabyte web slots, so much so that they are barely coping with the traffic!) Hopefully things will improve during the next few weeks. I can recommend the Geocities web space provision to anyone who needs space for a new page or a mirror of their present one. Just click on the icon at the foot of any of my pages under the Geocities URL for details. 73 Peter, G3PHO Editor RSGB Microwave Newsletter

"World above 1000MHz" web pages at: http://freespace.virgin.net/p.day/ghz.htm

and at http://www.geocities.com/SiliconValley/Vista/7012

HEAPS PEAK ATV RPTR: I just got home from Heaps Peak, and I'm pooped! We got the antennas up at the top of the main tower, at little over 90'. The 3380 MHz HOR POL output is mounted 8' out on the north candelabra, the 2441.5 Mhz VER POL input is on top, the 10400 Mhz HOR POL input, is mounted just below the 2441.5 Mhz input. The Santiago Pk ATV repeater HOR POL output is 3480 Mhz with input on 10.4 Ghz HOR POL. Owner is SBMS member Mike KC6CCC. 73's for now AL K6LJM k6ljm@local.net>

ARRL Bulletin 25 ARLB025 ITU concludes pre-WRC-97 talks--The ITU Conference Preparatory Meeting (CPM) for WRC 97 has just concluded two weeks of deliberations in Geneva, Switzerland. The work of CPM has resulted in the preparation of a 250+ page book of combined technical output from the various ITU study groups as well as the concerns of the member states.

Issues of special interest to radio amateurs that were taken up in preparation for WRC 97 included the possibility of additional frequency allocations to the Mobile Satellite Service operating below 1 GHz--familiar to hams as "the little LEO issue." No specific frequencies have been identified in the CPM report for reallocation. Although the report does address a number of sharing possibilities, it makes no mention of sharing with the Amateur Service. In addition, a new concept of "broad allocations" was introduced. If adopted, this concept would result in individual nations being able to identify and allocate frequencies from a broad pool of service allocations. This concept, being quite new and unstudied, only resulted in a call for future studies by the ITU. However, it will be watched closely by radio amateurs as it might have the potential of representing a threat to our bands. It is likely that any such studies will be prolonged over a multi-year period. Of course, the work of WRC 97 will be guided by specific proposals submitted by individual nations. At present, countries have not yet finalized nor submitted their proposals. Until they do, the amateur community will not be able to accurately assess the threats to our bands for this conference. Unfortunately, the Little LEOs are not the only new service searching for spectrum. One newcomer is the Earth Exploration Satellite Service's use of synthetic aperture radar (EESS active) for a system of spaceborne sensors designed to collect information about environmental issues and other similar data. A variety of frequencies is being sought, possibly including 430 to 440 MHz. The amateur and amateur satellite service status in this band is somewhat complex, varying by ITU Region and even by individual country. So far, studies of sharing possibilities between the amateur and EESS (active) have not shown them to be compatible because of the interference level experienced when the two classes of stations are within line of sight. There is also a type of EESS (active) which would make use of 1215 to 1300 MHz which is of concern to amateurs. Studies here show compatibility with some types of services but still represent a potential source of interference to amateur operations. Over the next 90 days, the various member countries of ITU interested in seeking specific allocations for these services at WRC 97 will be making proposals for the work of the conference. The ARRL--as the spokesman for Amateur Radio in the US--is actively participating in the work of the relevant ITU bodies on these matters along with the IARU.

2.4GHz ATV interference---Recently, while trying to view the output from our local ATV repeater on 2.4GHz, I noticed a herringbone pattern in the received signal. Looking closely at the VSB signal from the ATV repeater on a spectrum analyzer, I noticed a reasonably strong CW carrier which was the cause of the interference. Going mobile with a small dish and spectrum analyzer, a friend of mine and I were able track down the source of the carrier as a car parked on the street about a block away from my house. Based on subjective measurements, I suspect that the device generating the interference is putting out a stronger signal level than is allowed under part 15 rules for a non-spread mode. This, in addition to a violation due to the device causing interference to an established licensed service. I am guessing that it is a wireless vehicle alarm system of some kind. I'm not sure what the carrier is for. Possibly the link from the car to a pocket beeper? Possibly the 2.4GHz RF is used as part of a doppler motion detector to detect movement within the cab? In any case, I'm wondering if anyone is familiar with these systems and knows what kind of options I may have in dealing with the owner? If its just a matter of

getting him to put the unit of a different channel, that would be the easiest solution. I'd rather deal with the problem diplomatically rather than quote rules and regs telling the owner he has to shut down his expensive alarm system.Any reasonable opinions? Steve Muther WF6R stevem@w6yx.stanford.edu

ARRL PACIFIC DIVISION UPDATE JUNE, 1997 by Brad Wyatt, K6WR, Director, Pacific Division, ARRL WWW Pacific Division Home Page -- http://www.pdarrl.org/

ARRL WRC-99 Committee Proposes New Licensing Plan:- One of the charges given to the ARRL WRC-99 Planning Committee by the ARRL Board of Directors early last year was to study the U.S. amateur licensing structure. A full discussion of the Committee's proposals related to the U.S. licensing structure is given in March QST at page 55. Please read it and offer your comments to ARRL and to me. My thanks to all of you who have written already. I have read each e-mail and hard copy letter and noted your thoughts. My goal is to respond to each of you in the Division who have written me directly. Please remember that this is just a proposal and there is no certainty that the ARRL Board will adopt this or any other proposal on this matter. Further, it is not clear that the FCC is even interested in revising the Amateur Radio licensing and testing structure. In addition to the U.S. license restructuring matters, the WRC-99 Planning Committee of the ARRL Board was charged with the task of developing recommendations to be passed on to the U.S. Government delegation to WRC-99, dealing with potential changes in the International Telecommunications Union Rules governing the Amateur Service. This

activity resulted in the survey published in QST last August, as well as an additional mail survey subjected to careful statistical controls. The results of this survey were published in QST for Jan., 1997.

Continuing Avalanche of New Antenna Ordinances:- There is a huge new wave of antenna ordinances being proposed by cities and counties. These ordinances are being driven by the spectrum auctions and by new and expanding Cellular and Personal Communications Services licenses. All of us need to be aware of this trend. When you first sense any of this action in your community, contact your Section Manager, the ARRL Regulatory Information Branch, and me immediately so that we can get help to you and the rest of the hams in your community. The key to a successful defense is to separate the commercial interests from Amateur Radio in the minds of the city officials. It's vitally important that your city or county officials understand Amateur Radio involvement with emergency communications - this story must be told repeatedly, especially before the antenna ordinance crisis develops!

Latest Band Threat News:-The Little LEO companies were not able to advance their position at the April 7-11 meeting of PCC.III (Permanent Consultative Committee III-Radiocommunications) of the Inter-American Telecommunication Commission(CITEL) in Cartagena, Colombia. Practically none of the Little LEOs were there because their issues were stalled in Washington where they continued to be debated as part of US preparation for the 1997 Conference Preparatory Meeting (CPM) in Geneva the first two weeks of May. In other words, they couldn't get any paper out of Washington saying anything substantive until there is agreement between FCC, NTIA and State how far they can go to accommodate the Little LEOs while balancing that against the opposition from land mobile, broadcasting, amateurs and others. The FCC is making a last-minute attempt to improve the CPM text from the Little LEO viewpoint in a small meeting on Friday, April 18. The basic decision facing the FCC is whether to give some support to the so-called 'flexible-allocation' approach (just give us up to half the spectrum below 1 GHz and trust us not to interfere) or to focus on specific bands. Then, they're likely to reassess the situation in late May after the results of the CPM are digested. Page 76, May QST contains further background information. Thanks to all who responded to the last minute plea for comments on the flexible allocation plan. The period for public comment has ended, so no additional comments on the subject will help at this time.

San Diego Report - May 1997 The Microwave Group of San Diego met on Monday 5/19 at the home QTH of Kerry Banke, N6IZW. Kerry had set up a range in his back yard to allow measurement of 10 GHz Rig TX and RX system performance. This consisted of a 13 dB Horn and Mixer/LO mounted on a pole about 200+ feet from the site where the rigs were set up. This distance was sufficient to achieve far-field performance. The LO was a Frequency West Brick. A long RG59 coax line connected the mixer to the rig test site, where a VHF signal was applied for tests of rig receiver performance. This produced a weak mixed output signal from the horn, adjusted to 10,368.300 MHz. The VHF signal generator had a calibrated attenuator to adjust the output level, and therefore the level of the weak microwave signal. Rigs were tested by peaking their antennas on the signal from the horn and then reducing the VHF signal until MDS (Minimum Discernable Signal) was achieved. This was a subjective decision by the operators. The VHF attenuator signal level was then recorded.

For measurement of rig transmitter performance, the horn/mixer was operated as a downconverter to VHF and a line amplifier was switched in to the line to boost the signal for remote readout by a power meter, at the rig test site. Prior to the measurements, a calibrated 10 milliwatt source and a calibrated 12-inch reference antenna were used at the test site to establish the readout reference for this transmitter/antenna. Rig testing was done by peaking the antenna alignment in the receive-test mode, then transmitting a carrier to be read out on the power meter.

The transmitting results are presented here in terms of effective radiated power:

W6DXJ 22 inch dish 1 watt PA erp +62 dBm

N6IZW 30 inch offset fed 10 watt PA +73

WB6IGP 30 inch offset fed 10 watt PA +73

WB6BKR RCA DSS offset fed .8 watt PA +61

W6OYJ 30 inch dish .4 watt PA +62

W6OYJ 30 inch Macom dish .3 watt PA +56

KD6PBH RCA DSS offset fed .5 watt PA +56

KC6UQH RCA DSS circ pol .5 watt PA +53

The receiving test results were all in a narrow relative ballpark, within 5 dB, except for W6OYJ's Macom conversion which lacks a LNA prior to its first mixer. As was expected this system was about 8-10 dB worse in receiving performance than the others.

Some of us discovered that we had problems to be addressed before the next contest or event. The tests were very useful as they covered our complete systems, including feedline/relay losses and antenna performance. The tests for the systems above were carried out very quickly. It would be possible to implement a similar setup for comparison measurements at a future time, such as a VHF/UHF Conference or the ARRL SW Division Convention. 73s from Ed, W6OYJ

For those wishing to contact members of the San Diego Microwave Group- some are on email: AE6L Frank Adams <fadams@lyra.nosc.mil>,N6IZW Kerry Banke <kbanke@qualcomm.com>,W6DXJ Pete Bauer <bauer_pw@nosc.mil>,NE6O Jim Cooper <cooperjim@aol.com>,WB6BKR John Gehman <gehmansr@juno.com>,KD6PBH Jay Goldberg <j@harper.com>, N6XQ Jack Henry <jack@sisna.com>,WB6IGP Chuck Houghton <clhough@pacbell.net> Robert E. Munn" <edmunn@compuserve.com>

1 May 1997 SBMS meeting activity report- Those having microwave activity to report: George, K6GMV had a 6 meter contact with Jack, N6XQ/XE2 who will be going to Mexico for June contest; Ed K6ODV worked on his 10 Ghz rig; Al, K6LJM has been working on a ATV rptr for Heaps Pk 2 and 10 Ghz inputs and 3380 and 3480mhz outputs; Larry, K6HLH working on Down East kits; Ed, KE6BAA building a 1.2 Ghz converter for the fridaynight K6LGL SSB 8 pm net on 1296.1; Doug, K6JEY building a DSS dish on tripod for rigs; Derek, KN6TD got some 24 Ghz gunns; Mike KO6S working on spectrum analyzer; Jim, K6ML working on 10 Ghz rig; Bob, WA6SYA working on 1.2 Ghz pwr amp and built some 24 Ghz horns; Lloyd, AB6SM has 10 Ghz rig still working; Phil, W6HCC continuing DSP tests on 10 Ghz FSK, can recover signal at -10 dB s/n(hard to hear in noise with SSB 2.1 Khz bandwidth), but so-so at -14 dB s/n; Chuck, WA6EXV had 2.3 Ghz feed on 10 ft dish 7 dB NF preamp and could copy Heaps 2 Ghz beacon 26 dB s/n, when put on 1 dB NF preamp now has 38 dB s/n, part of the help has been the replacement of metal garage roof with composite shingles, tested some of the WB6DNX 2 Ghz amps with 9w at 2.0 Ghz but much less at 2.3 Ghz - will have to redo stripline boards; Dick, WB6DNX still cleaning 2 Ghz racks of equipment; Chip, N6CA working on SBMS homepage, Jack N6XQ took a 10 Ghz calibrator out to KH6HME to check beacons.

Wants and Gots for Sale

I am looking for information and manuals for the following units:Thomson CSF TH21610 KRM TWTA System (consisting of) TH3610C TWT, TH22610 Power Supply and Siemens 8Ghz 10W TWTA System (consisting of) RW90D 8Ghz TWT , RWNH120W and RWNH120WB Power Supply (I have one of each Power Supply). The Thomson system is operational, while I cannot get the Siemens system to come out of alarm. If anyone has any info on these TWTA systems I would gladly pay for reproduction of your manuals. And I am looking for some information on a couple of brick oscillators I recently picked up at a local hamfest.They were made by Engelmann Microwave (Model PL-A47) and are listed with a output at 7.290Ghz. They use are external referenced and lock up around 150Mhz but the output is not very stable (using my WaveTech signal generator as a reference). They use the usual (like Freq West & Cal. Microwave)1.1Ghz comb generator followed by a filter but they do not use a 90-105 mhz reference. Please let me know more about these if you have any information on them. I am also looking for a source of 2SC1600 transistors that are used in Freq West and Cal. Micowave bricks. I have a unit that has bad transistors after -36 volts was applied....Steven Kerns N3FTI skerns@pelican.talon.net

Akigawa Transverter- I need a manual or a copy for an Akigawa Musen, Inc., Model AGM 1210 as I don't know what to do with it otherwise. Any help will be appreciated. 73 and TNX Pete, W6DXJ bauer_pw@nosc.mil

Want a 1250 Mhz beam Dick WB6DNX 714-529-2800

Want manuals/ schematics for Farinon SS2000 Tranceiver (2 Ghz) and 24 Ghz head for HP432A powermeter Mike KO6S 909-981-3796

Another View--a note to Brad Wyatt, Pacific Div Director, ARRL sent in May 1997

To: bwyatt@arasmith.com

From: bburns@ridgecrest.ca.us (William Burns)

Subject: confusion in QST

Brad- there is some confusion on where ARRL stands normally, but the article "Get Ready for Phase 3D" in the May QST adds some more wonderment about ARRL. The part in question is the end of the paragraph on "Experiments at 24 GHz" on page 30. I would like to think Steve Ford and Zack Lau being experimenters them selves, were just trying to be funny about venturing out into homebrewing of equipment. I hope they were trying to encourage the purpose of the Amateur Radio Service in "advancing the radio art and gaining technical and operating skills". I know AMSAT is looking for that kind of support. I would like to think ARRL is promoting the Amateur Radio Service too. But one can read that group of words in another light. That being why should amateurs or non-amateurs go off and build something when it is easy to dumb-down and be an appliance operator. If the bands go away, so what, just watch the boob-tube with the can of beer at your side.

Thanks for being a pusher of keeping the microwave amateur bands and a vocal promoter of Amateur Radio west of the Hudson.

Bill Burns, WA6QYR

June Stations / Locations

WA6EXV DM15DP 2.4- 24 GHz

WB6CWN DL29-DM20 10 Ghz SSB

N6XQ/XE2 DL29-DM20 50 Mhz- 10 GHZ ssb

AB6SM central CA coast 10 Ghz ssb

KE6ALM Signal Hill DM03 10 Ghz WBFM

WB6DTA DM22 10 Ghz WBFM

K6JEY Signal Hill DM03 10 Ghz WBFM

K6OW Heaps Pk DM14KF 10 & 24 GHz

WA6QYR some hill CA 10 & 24 GHz

Calling Frequencies: USB Hor Pol 1296.1 Mhz, 2304.1, 3456.1, 5760.1, 10368.1, 24.192.1; WBFM Hor Pol 10.25 Ghz, 10.28, 24.125, 24.155 GHz.

73's Bill

---

back to SBMS homepage